

IN THE CLAIMS

1. (Currently Amended) A device comprising:
a network interface for coupling to a network; and
a processor coupled with the network interface, in which the processor is adapted to
receive voice signals;
group the voice signals into a plurality of serial data speech frames;
analyze the voice signals of at least some of the data speech frames to classify each in
one of a plurality of different types of speech;
determine a comparative discardability for some of the data speech frames relative to
others from the type of speech;
encapsulate the data speech frames into data packets, at least some of the data packets
including a comparative discardability code indicating the determined comparative
discardability of the encapsulated data speech frames; and
transmit the data packets through a packet switched network[[.]];
wherein determining a comparative discardability for the classified serial data speech
frames further includes comparing one of the data speech frames to adjacent frames and
associating a different comparative discardability with the data speech frame when there are
differences between the frame and the adjacent frames.
2. (Original) The device of claim 1, in which
the comparative discardability code is in an extension of an RTP header.
3. (Currently Amended) The device of claim 1, in which
the types of speech include ~~at least two of silence, unvoiced, voiced and polysyllabic sounds~~.
4. (Original) The device of claim 1, in which
one of the types of speech is silence, and
a data packet encapsulating a frame of silence is assigned a high comparative
discardability.

5. (Original) The device of claim 1, in which
a data packet encapsulating a frame that transitions from one type of speech to another
is assigned a low comparative discardability.

6. (Currently Amended) The device of claim 1, A device comprising:
a network interface for coupling to a network; and
a processor coupled with the network interface, in which the processor is adapted to
receive voice signals;
group the voice signals into a plurality of serial data speech frames;
analyze the voice signals of at least some of the data speech frames to classify each in
one of a plurality of different types of speech;
determine a comparative discardability for some of the data speech frames relative to
others from the type of speech;
encapsulate the data speech frames into data packets, at least some of the data packets
including a comparative discardability code indicating the determined comparative
discardability of the encapsulated data speech frames; and
transmit the data packets through a packet switched network;
in which the processor is further adapted to:
assigning a similar comparative discardability to a first preset number of serially
occurring data speech frames of a first one of the types of speech; and
assigning a next occurring data speech frame of the first type of speech a higher
comparative discardability.

7. (Original) The device of claim 6, in which the processor is further adapted to:
assigning a similar comparative discardability to a second preset number of serially
occurring data speech frames of a second one of the types of speech; and
assigning a next occurring data speech frame of the second type of speech a higher
comparative discardability,
in which the first preset number is different from the second preset number.

8. (Currently Amended) A device comprising:
a network interface for coupling to a network; and
a processor coupled with the network interface, in which the processor is adapted to
receive voice data packets through a packet switched network;
store the received packets in a buffer;
retransmit some of the stored packets through the network;
extract a comparative discardability code of a specific one of the stored packets
relative to the others, wherein the comparative discardability code is related to a preset type
of encoded speech;
make a discard decision for the specific packet in accordance with the extracted
comparative discardability code and the preset type of speech; and
delete the specific packet without retransmitting it if the discard decision is to drop the
packet[[.]];
wherein a percentage of non-transition packets that are deleted is greater than a
percentage of transition packets that are deleted.

9. (Original) The device of claim 8, in which the processor is further adapted to:
sense a congestion in the network, and
in which the comparative discardability code is extracted responsive to sensing the
congestion.

10. (Original) The device of claim 8, in which the processor is further adapted to:
set a discarding probability in accordance with the analyzed comparative
discardability code, and
in which the discard decision is made in accordance with the set discarding
probability.

11. (Currently Amended) A device comprising:
means for receiving voice signals;
means for grouping the voice signals into a plurality of serial data speech frames;
means for analyzing the voice signals of at least some of the data speech frames to
classify each in one of a plurality of different types of speech;
means for determining a comparative discardability for some of the data speech
frames relative to others from the type of speech;

means for encapsulating the data speech frames into data packets, at least some of the data packets including a comparative discardability code indicating the determined comparative discardability of the encapsulated data speech frames; and

means for transmitting the data packets through a packet switched network[.];
in which a data packet encapsulating frame that is associated with a transition from one type of speech to another is assigned a low comparative discardability.

12. (Original) The device of claim 11, in which the comparative discardability code is in an extension of an RTP header.

13. (Currently Amended) The device of claim 11, in which the types of speech include ~~at least two of silence, unvoiced, voiced and poised~~
polisive sounds.

14. (Original) The device of claim 11, in which one of the types of speech is silence, and a data packet encapsulating a frame of silence is assigned a high comparative discardability.

15. (Cancelled)

16. (Currently Amended) ~~The device of claim 11, further comprising:~~ A device comprising:

means for receiving voice signals;
means for grouping the voice signals into a plurality of serial data speech frames;
means for analyzing the voice signals of at least some of the data speech frames to classify each in one of a plurality of different types of speech;
means for determining a comparative discardability for some of the data speech frames relative to others from the type of speech;
means for encapsulating the data speech frames into data packets, at least some of the data packets including a comparative discardability code indicating the determined comparative discardability of the encapsulated data speech frames;
means for transmitting the data packets through a packet switched network;

means for assigning a similar comparative discardability to a first preset number of serially occurring data speech frames of a first one of the types of speech; and
means for assigning a next occurring data speech frame of the first type of speech a higher comparative discardability.

17. (Original) The device of claim 16, further comprising:
means for assigning a similar comparative discardability to a second preset number of serially occurring data speech frames of a second one of the types of speech; and
means for assigning a next occurring data speech frame of the second type of speech a higher comparative discardability,
in which the first preset number is different from the second preset number.

18. (Currently Amended) A device comprising:
means for receiving voice data packets through a packet switched network;
means for storing the received packets in a buffer;
means for retransmitting some of the stored packets through the network;
means for extracting a comparative discardability code of a specific one of the stored packets relative to the others, wherein the comparative discardability code is related to a preset type of encoded speech;
means for making a discard decision for the specific packet in accordance with the extracted comparative discardability code and the preset type of speech; and
means for deleting the specific packet without retransmitting it if the discard decision is to drop the packet[[.]];
wherein the extracted comparative discardability code for at least one packet is based on both attributes of a source voice data frame for the packet and attributes of non-source voice data frames.

19. (Original) The device of claim 18, further comprising:
means for sensing a congestion in the network, and
in which the comparative discardability code is extracted responsive to sensing the congestion.

20. (Original) The device of claim 18, further comprising:

means for setting a discarding probability in accordance with the analyzed comparative discardability code,

in which the discard decision is made in accordance with the set discarding probability.

21. (Original) An article comprising: a storage medium, the storage medium having instructions stored thereon, in which when the instructions are executed by at least one device, they result in:

receiving voice signals;

grouping the voice signals into a plurality of serial data speech frames;

analyzing the voice signals of at least some of the data speech frames to classify each in one of a plurality of different types of speech;

determining a comparative discardability for some of the data speech frames relative to others from the type of speech;

encapsulating the data speech frames into data packets, at least some of the data packets including a comparative discardability code indicating the determined comparative discardability of the encapsulated data speech frames; and

transmitting the data packets through a packet switched network.

22. (Original) The article of claim 21, in which
the comparative discardability code is in an extension of an RTP header.

23. (Currently Amended) The article of claim 21, in which
the types of speech include at least two of silence, unvoiced, voiced and poised
plosive sounds.

24. (Original) The article of claim 21, in which
one of the types of speech is silence, and
a data packet encapsulating a frame of silence is assigned a high comparative
discardability.

25. (Original) The article of claim 21, in which
a data packet encapsulating a frame that transitions from one type of speech to another
is assigned a low comparative discardability.

26. (Original) The article of claim 21, in which the instructions further result in:
assigning a similar comparative discardability to a first preset number of serially
occurring data speech frames of a first one of the types of speech; and
assigning a next occurring data speech frame of the first type of speech a higher
comparative discardability.

27. (Original) The article of claim 26, in which the instructions further result in:
assigning a similar comparative discardability to a second preset number of serially
occurring data speech frames of a second one of the types of speech; and
assigning a next occurring data speech frame of the second type of speech a higher
comparative discardability,
in which the first preset number is different from the second preset number.

28. (Currently Amended) An article comprising: a storage medium, the storage
medium having instructions stored thereon, in which when the instructions are executed by at
least one device, they result in:
receiving voice data packets through a packet switched network;
storing the received packets in a buffer;
retransmitting some of the stored packets through the network;
extracting a comparative discardability code of a specific one of the stored packets
relative to the others, wherein the comparative discardability code is related to a preset type
of encoded speech;
making a discard decision for the specific packet in accordance with the extracted
comparative discardability code and the preset type of speech; and
deleting the specific packet without retransmitting it if the discard decision is to drop
the packet[.];
wherein the comparative discardability code is further related to a speech type
transition.

29. (Original) The article of claim 28, in which the instructions further result in:
sensing a congestion in the network, and
in which the comparative discardability code is extracted responsive to sensing the
congestion.

30. (Original) The article of claim 28, in which the instructions further result in:
setting a discarding probability in accordance with the analyzed comparative
discardability code,
in which the discard decision is made in accordance with the set discarding
probability.

31. (Currently Amended) A method comprising:
receiving voice signals;
grouping the voice signals into a plurality of serial data speech frames;
analyzing the voice signals of at least some of the data speech frames to classify each
in one of a plurality of different types of speech,
analyzing the serial classified frames for speech type transitions,
identifying voice data speech frames both immediately preceding and immediately
following the speech type transitions,
determining a comparative discardability for some of the data speech frames relative
to others from the type of speech;
varying the comparative discardability determinations according to the identified
frames;
encapsulating the data speech frames into data packets, at least some of the data
packets including a comparative discardability code indicating the determined comparative
discardability of the encapsulated data speech frames; and
transmitting the data packets through a packet switched network.

32. (Original) The method of claim 31, in which
the comparative discardability code is in an extension of an RTP header.

33. (Currently Amended) The method of claim 31, in which
~~the types of speech include at least two of silence, unvoiced, voiced and plosive sounds.~~

34. (Original) The method of claim 31, in which one of the types of speech is silence, and a data packet encapsulating a frame of silence is assigned a high comparative discardability.

35. (Original) The method of claim 31, in which a data packet encapsulating a frame that transitions from one type of speech to another is assigned a low comparative discardability.

36. (Currently Amended) ~~The method of claim 31, further comprising:~~ A method comprising:

receiving voice signals;
grouping the voice signals into a plurality of serial data speech frames;
analyzing the voice signals of at least some of the data speech frames to classify each in one of a plurality of different types of speech,
determining a comparative discardability for some of the data speech frames relative to others from the type of speech;
encapsulating the data speech frames into data packets, at least some of the data packets including a comparative discardability code indicating the determined comparative discardability of the encapsulated data speech frames;
transmitting the data packets through a packet switched network;
assigning a similar comparative discardability to a first preset number of serially occurring data speech frames of a first one of the types of speech; and
assigning a next occurring data speech frame of the first type of speech a higher comparative discardability.

37. (Original) The method of claim 36, further comprising:
assigning a similar comparative discardability to a second preset number of serially occurring data speech frames of a second one of the types of speech; and
assigning a next occurring data speech frame of the second type of speech a higher comparative discardability,
in which the first preset number is different from the second preset number.

38. (Currently Amended) A method comprising:
receiving voice data packets through a packet switched network;
storing the received packets in a buffer;
retransmitting some of the stored packets through the network;
extracting a comparative discardability code of a specific one of the stored packets relative to the others, wherein the comparative discardability code is related to a preset type of encoded speech;
making a discard decision for the specific packet in accordance with the extracted comparative discardability code and the preset type of speech; and
deleting the specific packet without retransmitting it if the discard decision is to drop the packet[[.]];
wherein a percentage of transition packets that are deleted is not greater than a percentage of non-transition packets that are deleted.

39. (Original) The method of claim 38, further comprising:
sensing a congestion in the network, and
in which the comparative discardability code is extracted responsive to sensing the congestion.

40. (Original) The method of claim 38, further comprising:
setting a discarding probability in accordance with the analyzed comparative discardability code,
in which the discard decision is made in accordance with the set discarding probability.

41. (New) The device of claim 1 wherein the device is incorporated in an IP (Internet Protocol) telephone.

42. (New) The device of claim 1, wherein the device is incorporated in a voice gateway separating a circuit switched network and a packet switched network.

43. (New) The device of claim 1, wherein a different comparative discardability is associated with the data speech frame when either of the adjacent speech frames have a different speech type than the frame.

44. (New) The device of claim 43, wherein a low comparative discardability is associated with the data speech frame when either of the adjacent speech frames have a different speech type than the frame.

45. (New) The device of claim 44, wherein a high comparative discardability is associated with the data speech frame when both of the adjacent speech frames have a same speech type as the frame.